

AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the prior application:

Claim 45. (currently amended) A transformed plant, a plastid of which comprises:

(a) a polypeptide encoded by a nucleotide sequence encoding a branched chain oxoacid dehydrogenase complex E1 $\alpha$  subunit protein, said nucleotide sequence selected from the group consisting of:

- (i) the nucleotide sequence shown in SEQ ID NO:11, or the complement thereof;
- (ii) a nucleotide sequence that hybridizes to said nucleotide sequence of (i) under a wash stringency equivalent to 0.1X SSC ~~to 2.0X sse~~, 0.1% SDS, at 55-65°C 55°C, and which encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E1 $\alpha$  subunit by about 30% or less;
- (iii) a nucleotide sequence encoding the same amino acid sequence as said nucleotide sequence of (i), but which is degenerate in accordance with the degeneracy of the genetic code; and
- (iv) a nucleotide sequence encoding the same amino acid sequence as said nucleotide sequence of (ii), but which is degenerate in accordance with the degeneracy of the genetic code;

(b) a polypeptide encoded by a nucleotide sequence encoding a branched chain oxoacid dehydrogenase complex E1 $\beta$  subunit protein, said nucleotide sequence selected from the group consisting of:

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- (i) the nucleotide sequence shown in SEQ ID NO:13, or the complement thereof;
- (ii) a nucleotide sequence that hybridizes to said nucleotide sequence of (i) under a wash stringency equivalent to 0.1X SSC ~~to 2.0X SSC~~, 0.1% SDS, at ~~55-~~ ~~65°C~~ 55°C, and which encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E1 $\beta$  subunit by about 30% or less;
- (iii) a nucleotide sequence encoding the same amino acid sequence as said nucleotide sequence of (i), but which is degenerate in accordance with the degeneracy of the genetic code; and
- (iv) a nucleotide sequence encoding the same amino acid sequence as said nucleotide sequence of (ii), but which is degenerate in accordance with the degeneracy of the genetic code;

(c) a polypeptide encoded by a nucleotide sequence encoding a branched chain oxoacid dehydrogenase complex E2 component protein, said nucleotide sequence selected from the group consisting of:

- (i) the nucleotide sequence shown in SEQ ID NO:15, or the complement thereof;
- (ii) a nucleotide sequence that hybridizes to said nucleotide sequence of (i) under a wash stringency equivalent to 0.1X SSC ~~to 2.0X SSC~~, 0.1% SDS, at ~~55-~~ ~~65°C~~ 55°C, and which encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E2 subunit by about 30% or less;

(iii) a nucleotide sequence encoding the same amino acid sequence as said nucleotide sequence of (i), but which is degenerate in accordance with the degeneracy of the genetic code; and

(iv) a nucleotide sequence encoding the same amino acid sequence as said nucleotide sequence of (ii), but which is degenerate in accordance with the degeneracy of the genetic code; and

(d) ~~a polypeptide encoded by a nucleotide sequence encoding an enzyme that enhances the biosynthesis of 2-oxobutyrate an enzyme selected from the group consisting of aspartate kinase, homoserine dehydrogenase, threonine synthase, and threonine deaminase.~~

Claim 46. (previously presented) The plant of claim 1,  
wherein:

(a) the nucleotide sequence in (a) (ii) encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E1 $\alpha$  subunit by about 20% or less;

(b) the nucleotide sequence in (b) (ii) encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E1 $\beta$  subunit by about 20% or less; and

(c) the nucleotide sequence in (c) (ii) encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E2 component by about 20% or less.

Claim 37. (previously presented) The plant of claim 15,  
wherein:

(a) the nucleotide sequence in (a) (ii) encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E1 $\alpha$  subunit by about 10% or less;

(b) the nucleotide sequence in (b) (ii) encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E1 $\beta$  subunit by about 10% or less; and

(c) the nucleotide sequence in (c) (ii) encodes a polypeptide having enzymatic activity differing from that of *Arabidopsis thaliana* branched chain 2-oxoacid dehydrogenase complex E2 component by about 10% or less.

Claims 48-51. Canceled.

Claim 4. (currently amended) The plant of claim 15, wherein

(a) the nucleotide sequence encoding a branched chain oxoacid dehydrogenase complex E1 $\alpha$  subunit protein is SEQ ID NO: 11;

(b) the nucleotide sequence encoding a branched chain oxoacid dehydrogenase complex E1 $\beta$  subunit protein is SEQ ID NO: 13; and

(c) the nucleotide sequence encoding a branched chain oxoacid dehydrogenase complex E2 component protein, is SEQ ID NO: 15.; and

(d) ~~the nucleotide sequence encoding an enzyme that enhances the biosynthesis of 2-oxobutyrate is selected from the group of nucleotide sequences consisting of those that~~

~~encode aspartate kinase, homoserine dehydrogenase,  
threonine synthase, and threonine deaminase.~~

Claim <sup>5</sup><sub>53</sub>. (previously presented) The plant of claim <sup>4</sup><sub>52</sub>,  
wherein the enzyme that enhances the biosynthesis of  
2-oxobutyrate is aspartate kinase.

Claim <sup>6</sup><sub>54</sub>. (previously presented) The plant of claim <sup>4</sup><sub>52</sub>,  
wherein the enzyme that enhances the biosynthesis of  
2-oxobutyrate is homoserine dehydrogenase.

Claim <sup>7</sup><sub>55</sub>. (previously presented) The plant of claim <sup>4</sup><sub>52</sub>,  
wherein the enzyme that enhances the biosynthesis of  
2-oxobutyrate is threonine synthase.

Claim <sup>8</sup><sub>56</sub>. (previously presented) The plant of claim <sup>4</sup><sub>52</sub>,  
wherein the enzyme that enhances the biosynthesis of  
2-oxobutyrate is threonine deaminase.

Claim <sup>9</sup><sub>57</sub>. (previously presented) The plant of claim <sup>1</sup><sub>45</sub>,  
wherein the plant is a monocot.

Claim <sup>10</sup><sub>58</sub>. (previously presented) The plant of claim <sup>4</sup><sub>52</sub>,  
wherein the plant is a monocot.

Claim <sup>11</sup><sub>59</sub>. (previously presented) The plant of claim <sup>1</sup><sub>45</sub>,  
wherein the plant is a dicot.

Claim <sup>12</sup><sub>60</sub>. (previously presented) The plant of claim <sup>4</sup><sub>52</sub>,  
wherein the plant is a dicot.

Claim <sup>13</sup> ~~61~~. (previously presented) The plant of claim <sup>1</sup> ~~45~~,  
wherein the plastid is a seed plastid.

Claim <sup>14</sup> ~~62~~. (previously presented) The plant of claim <sup>4</sup> ~~52~~,  
wherein the plastid is a seed plastid.

Claim <sup>15</sup> ~~63~~. (previously presented) The plastid of claim <sup>13</sup> ~~61~~,  
wherein the seed plastid is a leucoplast.

Claim <sup>16</sup> ~~64~~. (previously presented) The plastid of claim <sup>14</sup> ~~62~~,  
wherein the seed plastid is a leucoplast.

Claim <sup>17</sup> ~~65~~. (previously presented) The plant of claim <sup>1</sup> ~~45~~,  
wherein the plastid is a leaf chloroplast.

Claim <sup>18</sup> ~~66~~. (previously presented) The plant of claim <sup>4</sup> ~~52~~,  
wherein the plastid is a leaf chloroplast.

Claim <sup>19</sup> ~~67~~. (previously presented) The plant of claim <sup>1</sup> ~~45~~,  
wherein the plant is *Arabidopsis*.

Claim <sup>20</sup> ~~68~~. (previously presented) The plant of claim <sup>4</sup> ~~52~~,  
wherein the plant is *Arabidopsis*.